

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in this Application:

Listing of Claims:

1. (Currently amended) A method of ~~modulating a carrier with~~ transmitting digital information having a series of datums represented in a plurality of symbols from a modulator to a demodulator, said method comprising:

a) selecting a first number of half-periods of a first phase distinguished carrier signal for representing a corresponding symbol of a first ~~one~~ datum of said series of datums;

b) selecting a second number of half-periods of a second phase distinguished carrier signal for representing a corresponding symbol of ~~the datum~~ a datum following said first datum;

c) determining at least one matching carrier signal having a third number of half-periods of a format to conform to a transition of said first phase distinguished carrier signal to said second phase distinguished carrier signal; ~~and~~

d) sequentially arranging into a modulated carrier said first number of half-periods of a first phase distinguished carrier signal, said third number of half-periods of said at least one matching carrier signal and said second number of half-periods of said second phase distinguished carrier signal; and

e) transmitting said modulated carrier from said modulator to said demodulator.

2. (Currently amended) ~~A~~ The method as defined in claim ~~1~~ 1, wherein said first number of half-periods is equal to said second number of half-periods.

3. (Currently amended) ~~A~~ The method as defined in claim ~~2~~ 2, wherein ~~the~~ a ratio of said first number of half-periods to said third number of half-periods is compatible with a partial-cross-correlator demodulator module in said demodulator that produces a plurality of partial-cross-correlation values for each said phase distinguished carrier signals, and said plurality of partial-cross-correlation values being solely ~~dependant~~ dependent on said phase distinguished carrier signals.

4. (Currently amended) ~~A~~ The method as defined in claim ~~3~~ 3, wherein the ratio of said first number of half-periods to said third number of half-periods is 3.

5. (Currently amended) A The method as defined in claim + 1, wherein said first number of half-periods is equal to said third number of half-periods.

6. (Currently amended) A The method as defined in claim ~~2~~ 2, wherein said third number of half-periods is 1.

7. (Currently amended) A The method as defined in claim + 1, wherein said at least one matching carrier signal is selected from a set including two carrier signals having antipodal phases.

8. (Currently amended) A The method as defined in claim + 1, wherein said at least one matching carrier signal is selected from a set including linear combinations of sinusoidally modulated quadrature carrier signals.

9. (Currently amended) A The method as defined in claim + 1, wherein at least one matching carrier signal is determined in response to additional digital information.

10. (Currently amended) A method of demodulating a modulated carrier having long carrier signals interspersed between matching signals, extracting digital information having a series of datums represented in a plurality of symbols contained in a modulated carrier containing therein a first number of half-periods of a first phase distinguished carrier signal representing a corresponding symbol of a first datum of said series of datums, a second number of half-periods of a second phase distinguished carrier signal for representing a corresponding symbol of a datum following said first datum and a third number determined from at least one matching carrier signal having of half-periods of a format to conform to a transition of said first phase distinguished carrier signal to said second phase distinguished carrier signal, said method comprising:

- a) sampling the said modulated carrier into sampled results;
 - b) detecting said matching signals from the sampled results;
 - c) synchronizing a clock with said matching signals;
 - d) detecting the long carrier signals in the associated with same modulated carrier from the sampled results in a correct interval as determined by said clock; and
 - e) demodulating said long carrier signals from the modulated carrier.
11. (Canceled).

12. (Currently amended) A method of transmitting digital information having a series of datums represented in a plurality of symbols between a pair of corresponding modulator and demodulator, said method comprising:

- a) at said modulator:
 - i) selecting a first number of half-periods of a first phase distinguished carrier signal for representing a corresponding symbol of a first ~~one~~ datum of said series of datums;
 - ii) selecting a second number of half-periods of a second phase distinguished carrier signal for representing a corresponding symbol of ~~the~~ a datum following said first datum;
 - iii) determining at least one matching carrier signal having a third number of half-periods of a format to conform to a transition of said first phase distinguished carrier signal to said second phase distinguished carrier signal; and
 - iv) sequentially arranging into a modulated carrier said first number of half-periods of a first phase distinguished carrier signal, said third number of half-periods of said at least one matching carrier signal and said second number of half-periods of said second phase distinguished carrier signal;
- b) transmitting said modulated carrier from said modulator to a said demodulator; and
- c) at said demodulator:
 - i) sampling ~~the~~ said modulated carrier;
 - ii) detecting ~~said~~ matching signals from the modulated carrier;
 - iii) synchronizing a clock with said matching signals;
 - iv) detecting ~~the~~ long carrier signals from the modulated carrier in the correct interval as determined by said clock; and
 - v) demodulating said long carrier signals from the modulated carrier.

13. (Currently amended) A method of transmitting digital information having a series of datums represented in a plurality of symbols between a ~~pair of corresponding~~ modulator and demodulator, said method comprising:

- a) at said modulator:

i) selecting a first number of half-periods of a first phase distinguished carrier signal for representing a corresponding symbol of a first ~~one~~ datum of said series of datums;

ii) selecting said first number of half-periods of a second phase distinguished carrier signal for representing a corresponding symbol of the a datum following said first datum;

iii) determining at least one matching carrier signal having a second number of half-periods of a format to conform to a transition of said first phase distinguished carrier signal to said second phase distinguished carrier signal, wherein the ratio of said first number of half-periods to said second number of half-periods is compatible with a partial-cross-correlator demodulator that produces a plurality of partial-cross-correlation values for each said phase distinguished carrier signals, and said plurality of partial-cross-correlation values being solely ~~dependant~~ dependent on said phase distinguished carrier signals; and

iv) sequentially arranging into a modulated carrier said first number of half-periods of a first phase distinguished carrier signal, said third number of half-periods of said matching carrier signal and said second number of half-periods of said second phase distinguished carrier signal;

b) transmitting said modulated carrier from said modulator to a said demodulator; and

c) at said demodulator:

i) sampling the modulated carrier;

ii) partially cross-correlating said sampling results; and

iii) synchronizing said sampling on the basis of a history of said cross-correlation results.

14. (Canceled).

15. (Canceled).

16. (Canceled).

17. (Canceled).

18. (New) The method of extracting digital information as claimed in claim 10, further comprising:

a.1) partially cross-correlating said sampling results; and

a.2) synchronizing said sampled results utilizing a history of said cross-correlation results.

19. (New) The method of extracting digital information as claimed in claim 18, wherein said modulated carrier is generated by yaw shift keying (YSK) modulation.

20. (New) The method of transmitting digital information as claimed in claim 1, wherein said modulated carrier is generated by yaw shift keying (YSK) modulation.

21. (New) The method of transmitting digital information as claimed in claim 12, wherein said modulated carrier is generated by yaw shift keying (YSK) modulation.

22. (New) The method of transmitting digital information as claimed in claim 13, wherein said modulated carrier is generated by yaw shift keying (YSK) modulation.